

## 1994 Heron Lake Colonial Waterbird Survey

### I. OBJECTIVES

The objectives of this survey are to:

1. Monitor population trends of Colonial Nesting Waterbirds populations, which may indicate the effects of the Heron Lake Area Restoration Project.
2. Provide population information to Minnesota Department of Natural Resources for Species of Special Concern.
3. Document colony locations to assisting in public use planning for Heron Lake.

### II. METHODOLOGY

Thirteen counts were conducted from June 24, 1994 through July 20, 1994. The census was conducted by boat and on foot along the shoreline and the populations were counted and/or estimated. Data collected was recorded on a Colonial Bird Survey form which was developed in cooperation with the Minnesota Department of Natural Resources Nongame Bird Specialist in Region 4, the same survey form used for the 1993 census. The data recorded included: count method, nesting stage, total adult population, total active nests, and total broods. Species numbers were obtained by visual estimates, nesting stage was determined, and the number of nests

were counted (see attachment # 1).

The survey route for each count is outlined on the back of the survey form used for that day.

### III. RESULTS

A summary of data is provided on Table A (see attachment # 2). Late in the Spring there seemed to be a draw down occurring which exposed the vegetation and started drying the soil. This resulted in poor nesting conditions for the Colonial Waterbirds and deterred most of the nesting activities. In mid June there was a drastic bounce in the water level due to frequent rainfalls and this destroyed any benefits that the draw down might of had. Water levels are recorded on Table B (see attachment # 3). Due to the water levels and poor nesting conditions there was a significant decrease in the number of birds and their nesting activities. Most of the bird activity was concentrated on Duck Lake, the North Marsh, and Division Creek. Nesting activities were found only on Duck Lake. See attachment # 4 for the location of the colonies and sightings.

Approximately 120 Black terns were seen and 6 nests were found on Duck Lake. Due to high water, the lack of cover, and wind these nests were later destroyed.

Pied-billed grebe nesting was successful on Duck Lake. Approximately 30 adults, 100 young, and 15 broods were seen. But I am confident that there are more on the lake than what was observed.

Two Cormorant rookeries were found with 15 nests and a population of approximately 720.

There was a significant decrease in the number of Franklin's gulls, Forester's terns, and Black Crowned Night Herons (BCNH). Approximately 160 Franklin's gulls, 115 Forester's terns, and 40 BCNH were seen through out the lake system. No nesting was found by these species except for 3 possible Forester's tern nests on Duck Lake, but these nests were not positively determined.

Western grebe numbers are down and no nests or young were observed. Eleven were seen but four of these sightings are believed to be the same bird.

Other species sighted include: Herring gulls, Ring-billed gulls, Common terns, White pelicans, Great blue herons, and Great egrets. Near the end of July the numbers of Black tern, Cormorant, Franklin's gull, Ring-billed gull, Great blue heron, and White pelican showed an increase. Great egrets were not seen until 7/20/94. The increase in numbers is believed to be due to the birds annual movements and a large source of food that is available to the birds in the area.

Many American coot with broods were seen on Duck Lake, and about 20 Ruddy duck, and 50 Redheads were also seen. Mallards, Wood ducks, and Canadian geese are all abundant around Division Creek and the North Marsh. Through out the survey there were signs of nesting failure; an abandoned Grebe nest was found with 7 eggs in it and Black tern, Grebe, Mallard, and Canadian goose eggs were also found floating in the water. Near the end of July species of shorebirds began to appear including: Solitary sandpiper, Lesser yellowlegs, Marbled godwit, and species of peeps.

#### IV. MANAGEMENT IMPLICATIONS

The draw down in May was beneficial for controlling the populations of ruff fish and to stimulate growth of new vegetation. The low water levels however provided poor nesting conditions for the Colonial Waterbirds. The bounce in water levels then destroyed the benefits of the draw down and also the nests of the Black terns on Duck Lake. Optimum nesting conditions and successful nesting for the Colonial species would consist of stable water conditions and the cattails and other vegetation need to be flooded. Unfortunately we can not manage water levels the way we would like to at this point. To achieve this the drainage system of the lake should be modified and this could be done by dredging or cleaning out the channels of the lake system. Before anything is attempted there needs to be more hydrologic modeling and studies conducted. Hopefully 1995 will bring us more stable weather conditions and the

populations of Colonial Waterbirds will return and have successful nesting activities.

I would like to thank Lee Carlson, Watershed Ecologist, for his time and efforts during the survey. His assistance was beneficial to the survey and greatly appreciated.

*Joseph A. Black*  
Joseph A. Black

Colony Location (see map) \_\_\_\_\_ Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: \_\_\_\_\_  
\_\_\_\_\_

Threats to colony \_\_\_\_\_

Survey Details

Date \_\_\_\_\_ Time: \_\_\_\_\_ Observers: \_\_\_\_\_

Address &amp; Telephone \_\_\_\_\_

Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique \_\_\_\_\_

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican					
Bl-crest cormorant					
Great Blue Heron					
Great Egret					
Bl-crowned night heron					
Crowned Grebe					
Hooded Grebe					
Western Grebe					
Ring-billed Gull					
Herring Gull					
Common Tern					
Franklin's Gull					
Forster's Tern					
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:

Describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Gathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## ATTACHMENT #2

## 1994 NESTING SUMMARY

N U M B E R S

<u>Species</u>	<u>See Map Attachment #4</u>	<u>Adult</u>	<u>Young</u>	<u>Nest</u>	<u>Broods</u>
Black Tern	A	120		6	
Pied-billed Grebe	B	30	100		15
Western Grebe		11			
Franklin's Gull		160			
Forester's Tern		115			
Cormorants	C	720		15	
Black Crowned Night Heron	D	40			

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<u>TOTALS</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Black Tern			120
Pied-billed Grebe			30
Western Grebe	140	50	11
Franklin's Gull	2,000	4,260	160
Forester's Tern	1,000	645	115
Cormorants	250		720
Black Crowned Night Heron	150	1,000	40

## WATER LEVELS\* NORTH MARSH/STATE DAM

DATE	READING	COMMENTS
05/10/94	4.34	above dam
05/10/94	4.16	below dam
05/17/94	3.78	above dam
05/17/94	3.60	below dam
05/26/94	2.825	below dam
06/01/94	2.44	
06/08/94	2.98	recent rains
06/20/94	7.12	above dam
06/20/94	7.12	below dam
06/27/94	8.44	below dam
06/27/94	1.88	above dam
07/05/94	0.08	gage 150' north of dam
07/07/94	6.46	gage west side of dam (upstream)
07/14/94	4.86	

\*Water levels provided by Lee Carlson, Watershead Ecologist.



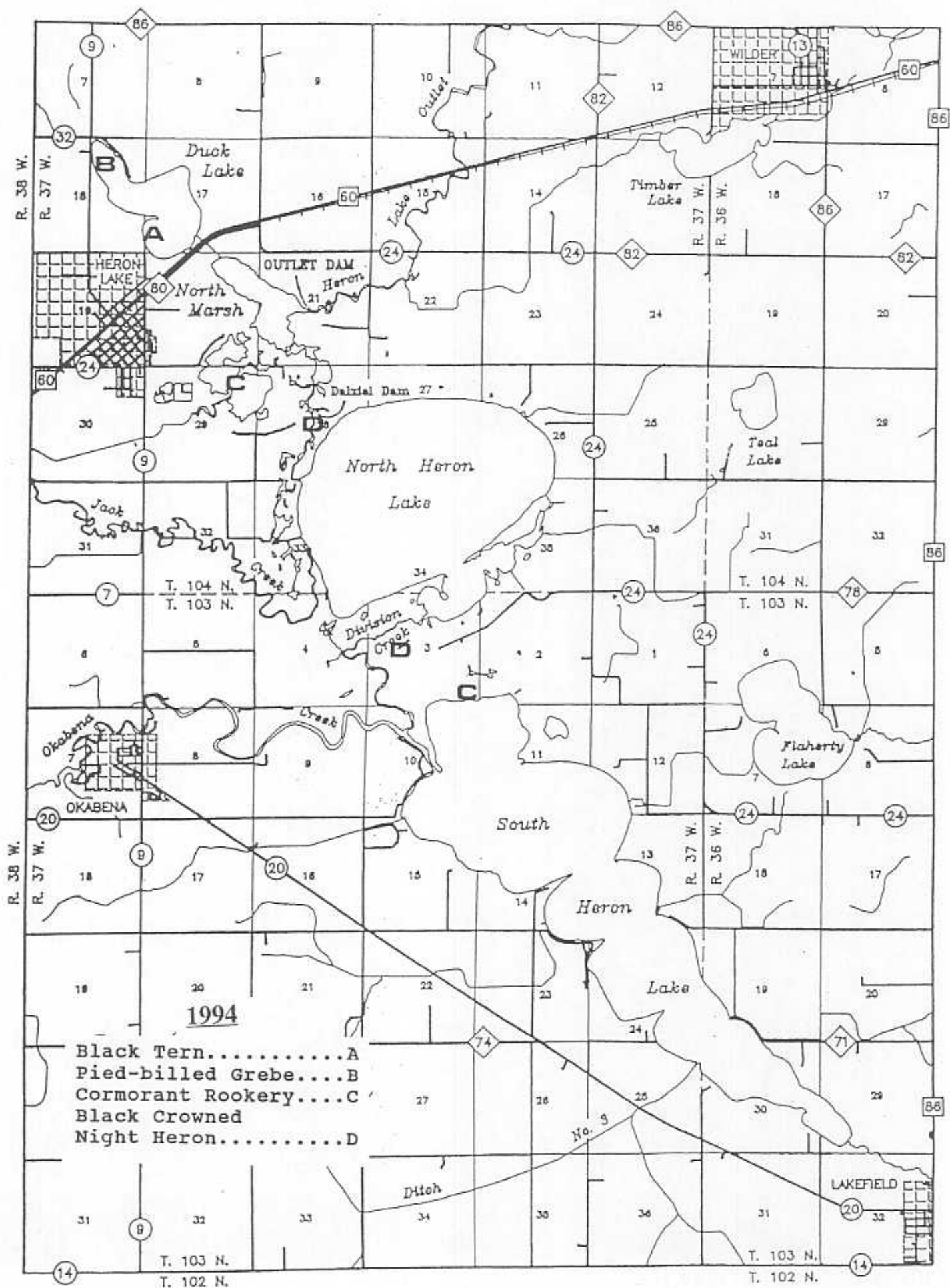
Attachment # 3 cont.

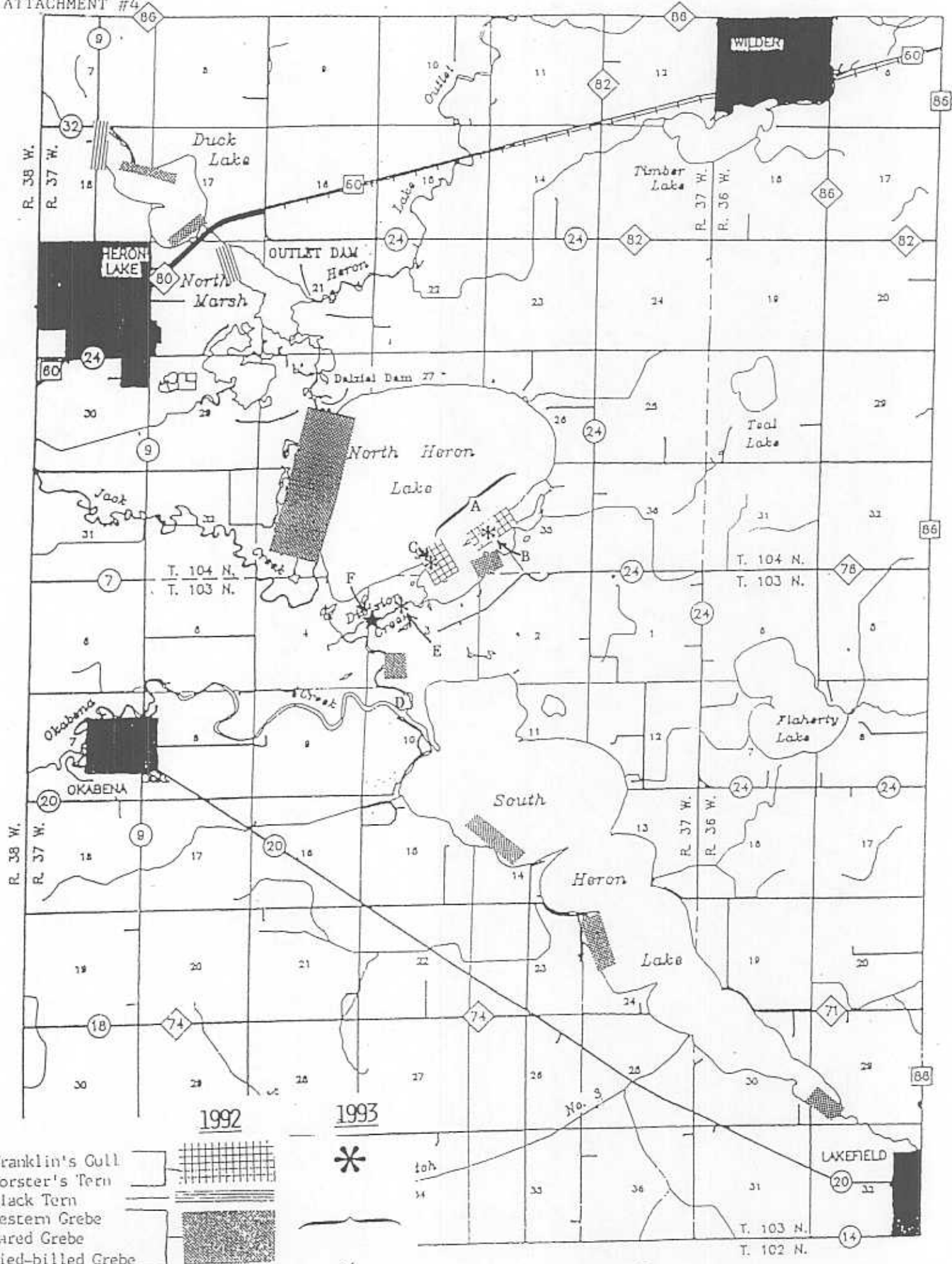
## WATER LEVELS\* DUCK LAKE


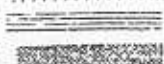



DATE	READING	COMMENTS
05/10/94	8.16	
05/17/94	7.945	
05/26/94	7.92	
06/01/94	7.76	
06/06/94	8.00	
06/08/94	8.24	
06/15/94	8.66	
06/27/94		1" from top of board over staff gage
07/04/94	9.62	
07/17/94	8.45	
07/19/94	8.40	


\*Water levels provided by Lee Carlson, Watershead Ecologist.


# HERON LAKE — JACKSON COUNTY







- Franklin's Gull 
- Forster's Tern 
- Black Tern 
- Western Grebe 
- Eared Grebe 
- Pied-billed Grebe 
- Black Crowned Night Heron 

1992 

1993 





T. 103 N.  
T. 102 N.

## SURVEY INSTRUCTIONS AND ROUTES

1. Review pervious survey reports completed on Heron Lake.
2. Obtain and check needed equipment:
  - Vehicle
  - Boat, trailer, motor, gas can, oars, push-pull
  - Trolling motor and battery
  - Camera, high band radio and/or mobile telephone
  - Minnesota Colonial Bird Survey Form with map (data sheet)
  - Plastic bags, rubber gloves, and rain suit for collection of dead and dying waterbirds and waterfowl
3. Arrange for co-workers or volunteers to assist/accompany you during the survey.
4. Personally contact private land owners and receive permission each time you access the water by their property.
5. Conduct the water survey of Colonial nesters and take photographs.
6. A daily itinerary should be completed prior to each survey and should include: location of survey, location of water access, and departure and return times.
7. Summarize data and complete a final report. The report should include photographs of noteworthy wildlife and aerial photos showing locations of sightings and colony boundaries.

SURVEY ROUTES AND ACCESS POINTS (See attachment # 5 and 6)

Access Points:

1. Duck Lake (A): Contact Dean Schmacher
2. North Marsh (B): Contact Bill Fest
3. North Heron Lake (C): Contact Dave Pohlman
4. Division Creek (D): Contact Tony Thompson
5. South Heron Lake: Sandy Point County Park (E)  
: Public Access, carry in (F)

MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) Duck Lake Parcel \_\_\_\_\_ Section \_\_\_\_\_  
 Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_  
 Best access route (see + map) \_\_\_\_\_  
 Description of habitat, site, & nesting substrate: Emergent and submergent veg.



Threats to colony High water

Survey Details

Date 6-24-94 Time: 1:30pm-3:00pm Observers: J Black  
 Address & Telephone Windom WMO 831-2220  
 Photos: yes kept at: Windom Wetland Mon. Dist. Census technique boat

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	10		
Dbl-crest cormorant					
Great Blue Heron					
Great Egret					
Bl-crowned night heron					
Horned Grebe					
Eared Grebe					
Western Grebe					
Ring-billed Gull					
Herring Gull	1	K	15		
Common Tern	1	K	25		
Franklin's Gull					
Forster's Tern	1	K	40		
Other (details in comments) <u>A. Coot</u>	1	FG	60		20
<u>B. Tern</u>	1	M	45		

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:  
High water  
Black Tern mobbed boat - nesting?  
10 Ruddy duck seen

**"HERON LAKE" COLONIAL WATERBIRDS (as of 1994)**

**NESTING**

FOTE  
BLTE  
BCNH  
WEGR  
FRGU  
DCCO

**OBSERVED**

HEGU  
RBGU  
COTE  
WHPE  
GBHE  
GREG

**NORTH HERON LAKE**

1992: WEGR, EAGR, PBGR (West side of North Heron Lake)

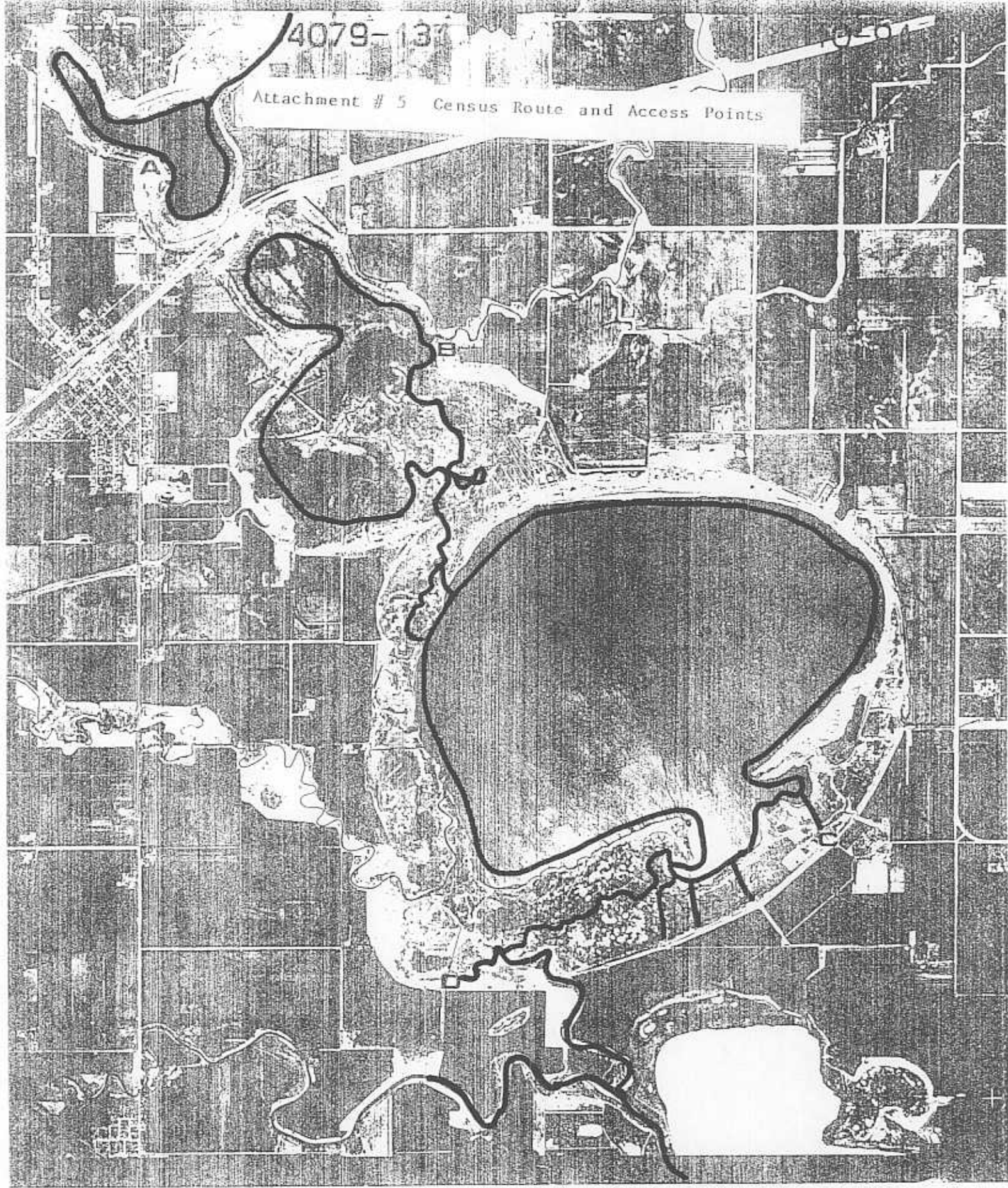
1993 FRGU, FOTE, (SE Side of North Heron Lake)

1994 BLNH nesting on North Marsh N/NW side of North Heron Lake and on south side of the North Heron Lake

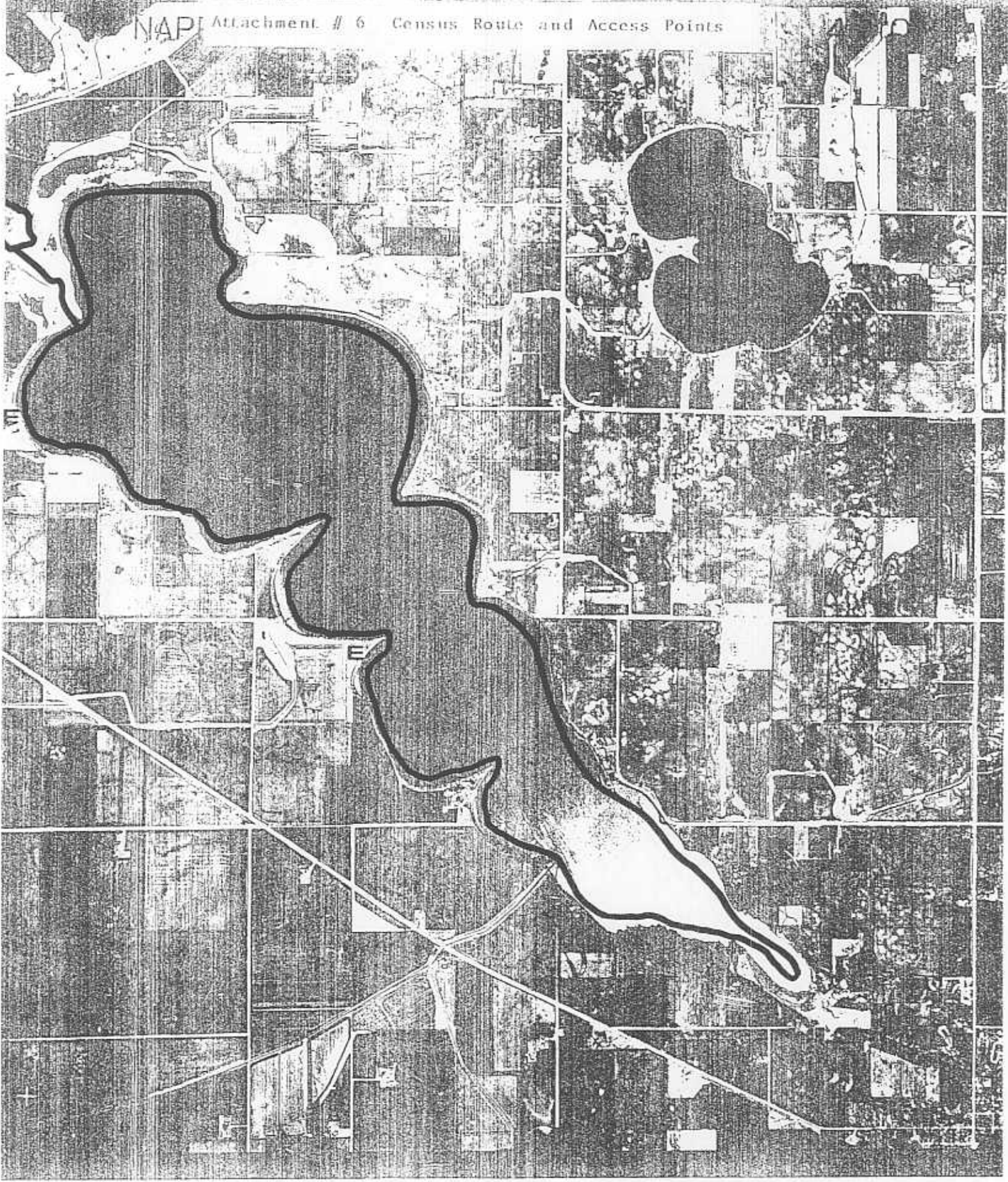
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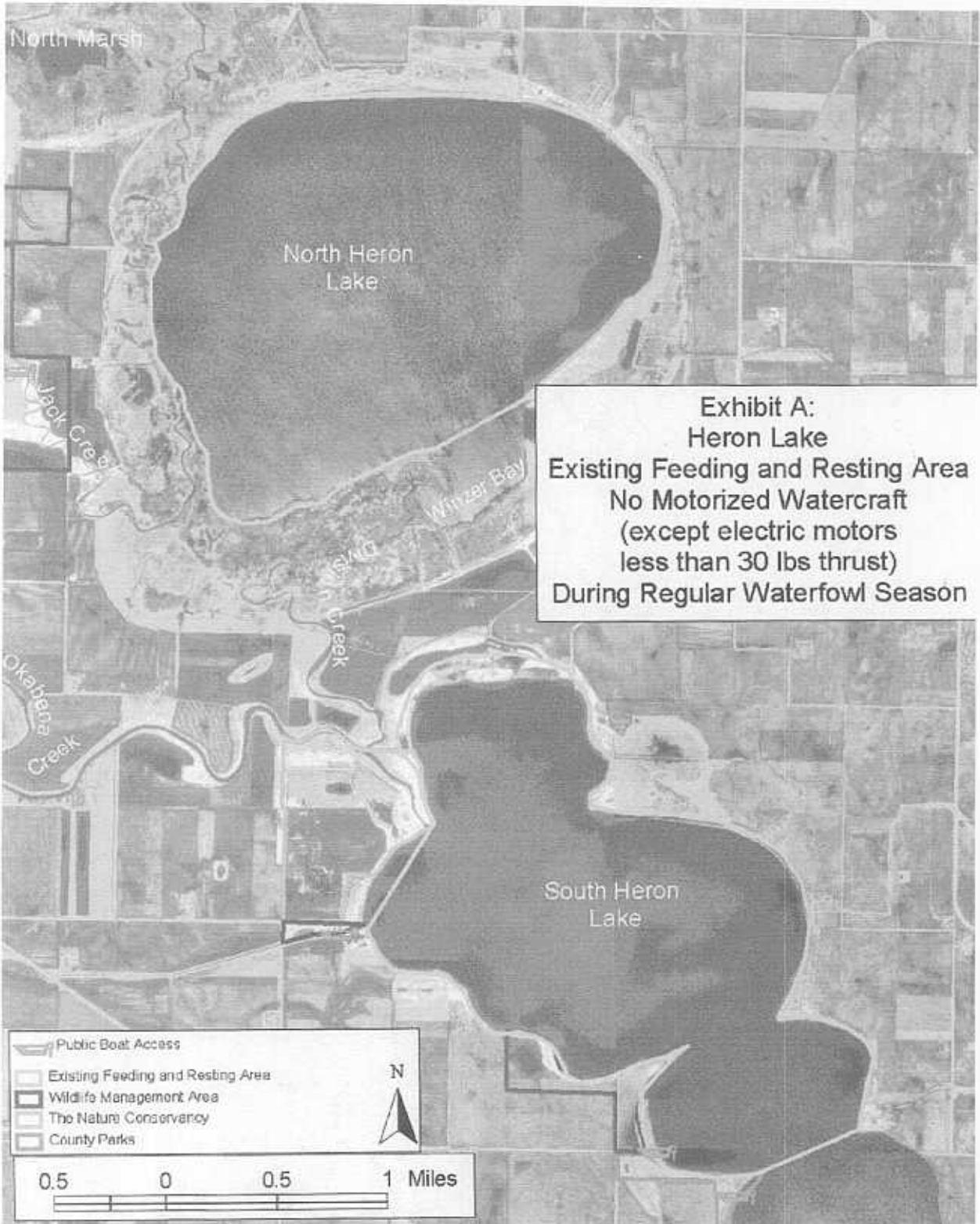
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Attachment # 5 Census Route and Access Points



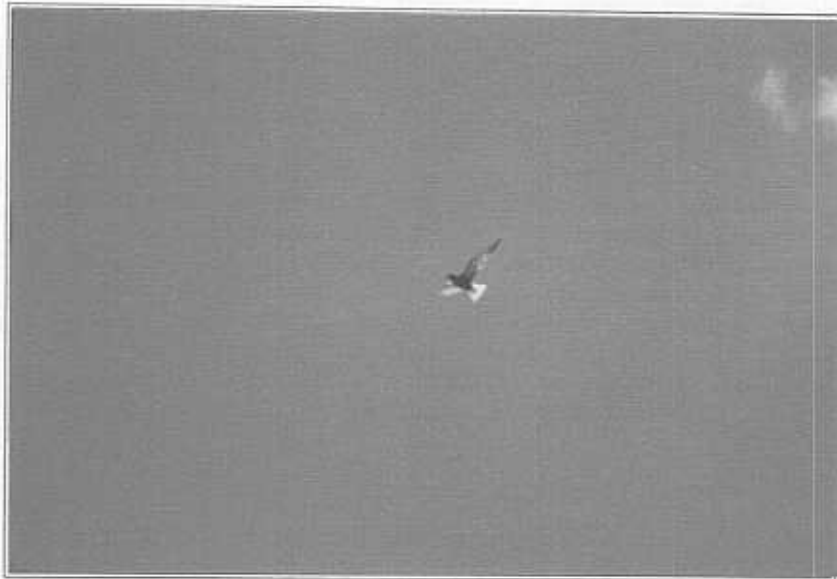






Attachment # 7

PHOTOGRAPHS



1. Black tern, Duck Lake.  
06/24/94



2. White pelicans along Division Creek.  
07/01/94



3. Franklin's gull, Duck Lake.  
07/07/94

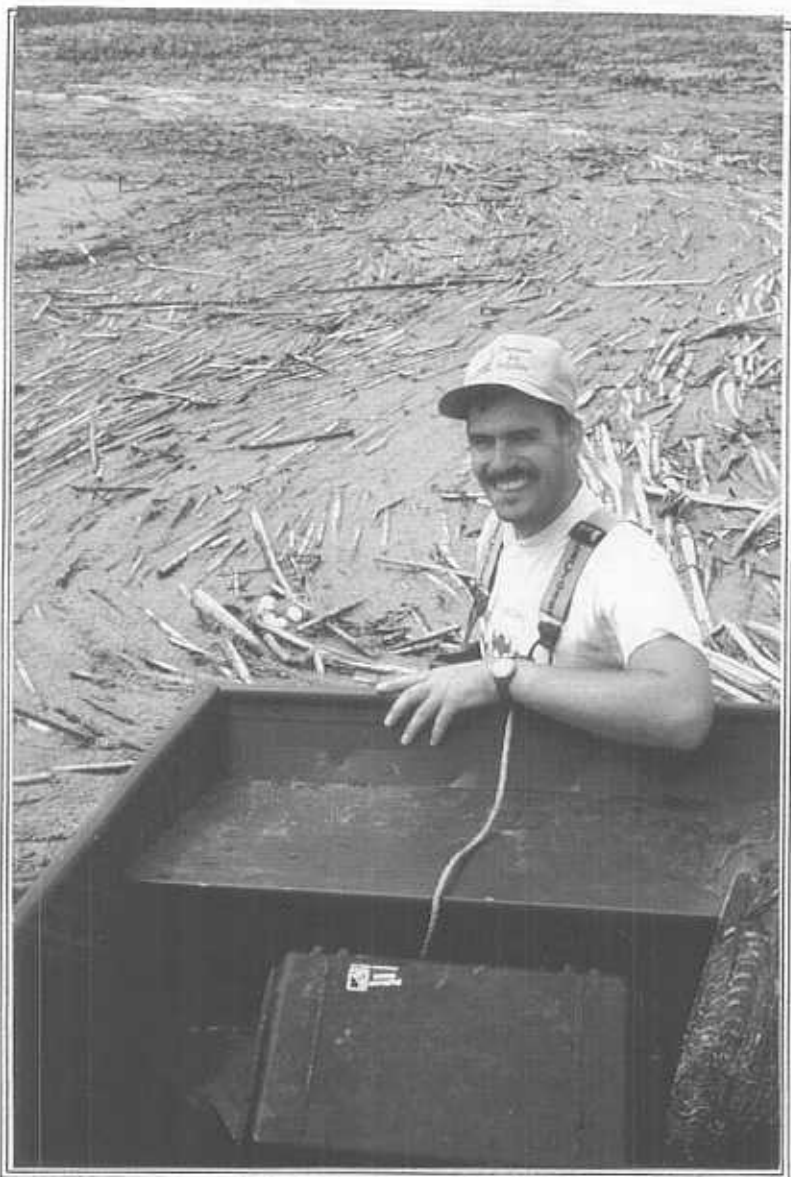


4. Cormorant rookery on the North end of South Heron Lake.  
07/12/94



5. White pelican near the Dalzial Dam.

07/20/94



6. Joe Black, Temporary Biological Technician, and an abandoned Pied-billed grebe nest on Duck Lake.

07/07/94

MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - LACERON COUNTY - 1994

Colony Location (see map) Duck Lake Parcel Section        Twp.        Rg.       

Colony size (estimated acres) 5 acres Site Ownership       

Best access route (see \* map)       

Description of habitat, site, & nesting substrate: High water & open water  
nests are cattails and on muskrat houses - very little cover

Threats to colony Flooding

Survey Details

Date 6-27-94 Time: 1:30pm Observers: J. Black, Lee Carlson

Address & Telephone Windom WMD 831-2220

Photos:        kept at:        Census technique from shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	15		
Dbl-crest cormorant					
Great Blue Heron					
Great Egret					
Bl-crown night heron					
Horned Grebe					
Eared Grebe					
Western Grebe	1	K	4		
Ring-billed Gull					
Herring Gull					
Common Tern					
Franklin's Gull					
Forster's Tern	1	K	10		
Other (details in * comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

Black Tern Colony: 6 nests (1)

Pied Billed Grebe: 7 broods, 4 nests counted but I'm sure there is more (D, F, G)

Western Grebe: 2 pair

Red Head pair

A. Coot: on nests, many broods (F, G)

Water level: 8.44, 1.8

North of Duck Lake: Pied Billed Grebe on nest  
Dead ♀ Redhead retrieved  
Canada Goose

MINNESOTA COLONY BIRD SURVEY Form  
 RESTON 4 - WASHINGTON COUNTY 1994

Colony Location (see map) N. Itasca Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp. \_\_\_\_\_ Rg. \_\_\_\_\_

Colony size (estimated acres): \_\_\_\_\_ Site Ownership Land Trust

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: \_\_\_\_\_

Threats to colony: \_\_\_\_\_

Survey Details

Date 6-29-94 Time: 3:00 Observers: J. Black, L. Carlson

Address & Telephone Windom WMD 831-2220

Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique boat / from shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican					
Dbl-crest cormorant					
Great Blue Heron					
Great Egret					
Bl-crowned night heron					
Horned Grebe					
Eared Grebe					
Western Grebe					
Ring-billed Gull					
Herring Gull					
Common Tern					
Franklin's Gull	1	K	4		
Forster's Tern					
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:

describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

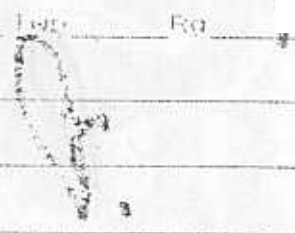
Comments: \_\_\_\_\_

Attempted to get on the water - but the wind was too strong  
1 egg found



MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) Duck Lake Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_  
 Colony size (estimated acres) 2 Site Ownership \_\_\_\_\_  
 Best access route (see \* map) \_\_\_\_\_  
 Description of habitat, site, & nesting substrate: \_\_\_\_\_



Threats to colony high water

Survey Details

Date 6-30-94 Time: 9:30am-12:30pm Observers: J. Black  
 Address & Telephone Windom WMO 831-2220  
 Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique boat, on shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	25		
Dbl-crest cormorant	1	K	15		
Great Blue Heron					
Great Egret					
Bl-crown night heron					
Horned Grebe					
Eared Grebe					
Western Grebe	1	K	2		
Ring-billed Gull					
Herring Gull					
Common Tern					
Franklin's Gull					
Forster's Tern	1	K	5		
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:  
 1. ~~A. Coot~~: nests = 12 Broods = 10  
 2. Black Tern: nests = 6, 2?  
 - fishing + flying to nest?  
 - 6 nests almost under water  
 3. Red-Billed Grebe: 10 nests = present broods = 5  
 - Grebe nest floated saw 3 eggs  
 - became windy, left the water

MINNESOTA COLONIAL BIRD SURVEY CODE  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) A, B, H + I Parcel \_\_\_\_\_ Section \_\_\_\_\_ Top \_\_\_\_\_ Ra \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: high water, many cattails under water

Threats to colony \_\_\_\_\_

Survey Details

Date 7-1-94 Time: 7:30am - 12:30pm Observers: J Black L. Carlson

Address & Telephone Windom WMD 831-2220

Photos: yes kept at: Windom WMD Census technique boat

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	80		
<del>White-crown cormorant</del>	1	N	70	13	
Great Blue Heron	1	K	15		
Great Egret					
Bl-crown night heron	1	K	25		
Horned Grebe					
Eared Grebe					
Western Grebe	1	K	1		
Ring-billed Gull	1	K	5		
Herring Gull					
Common Tern					
Franklin's Gull	1	K	15		
Forster's Tern					
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation: describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

1. Wood Duck:

2. Mallard:

3. C. Goose: 200, brood number undetermined  
 - sick C. Goose

4. 1 Black Tern

MINNESOTA COLONIAL BIRD SURVEY FORM  
 SECTION 4 - WISCONSIN COUNTY 1994

Colony Location (see map) A.B.G.H Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: \_\_\_\_\_

Threats to colony \_\_\_\_\_

Survey Details

Date 7-6-94 Time: 10:00am - 1:30pm Observers: J. Black

Address & Telephone Wisdom WMO 931-2220

Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique boat

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	10		
Bl-crest cormorant	1	K	7		
Great Blue Heron	1	K	2		
Great Egret					
Bl-crown night heron					
Horned Grebe					
Eared Grebe					
Western Grebe	1	K	1		
Ring-billed Gull	1	K	5		
Herring Gull					
Common Tern					
Franklin's Gull	1	K	1		
Forster's Tern					
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and ne building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

1 Canada Goose : 90

- Water level dropped about 2 feet since 7-1-94

- Sags showing on N. Lake and Wierzer Bay

MINNESOTA COLONIAL BIRD SURVEY Form  
 REGION 4 - JACKSON COUNTY 1994

Colony Location (see map) N. Marsh: F Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see + map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: open water, cattails

Threats to colony \_\_\_\_\_

Survey Details

Date 7-7-94 Time: 8:45am-12:30pm Observers: J. Black & Carlson

Address & Telephone Windom WMD 831-2220

Photos: yes kept at: Windom WMD Census technique boat

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	25		
Bl-crest cormorant	1	K, O	220	2	
Great Blue Heron	1	K	10		
Great Egret					
Bl-crown night heron	1	K	2		
Horned Grebe					
Eared Grebe					
Western Grebe	1	K	1		
Ring-billed Gull	1	K	10		
Herring Gull					
Common Tern					
Franklin's Gull	1	K	1		
Forster's Tern	1	K	30		
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation: describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

1. Black Tern: 15

2. Cormorant rookery: 2 nests, 1 egg - 2 photos

MINNESOTA COLONIAL BIRD SURVEY  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map): Duck Lake Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres): 2 acres Site Ownership \_\_\_\_\_

Best access route (see + map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: open water, cattails, sago

Threats to colony Skimming, wind (lack of cover)

Survey Details

Date 7-7-94 Time: 1:15 pm - 4:00 pm Observers: J. Black L. Carlson

Address & Telephone Windom WMD 831-2220

Photos: yes kept at: Windom WMD Census technique boat / from shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	10		
Dbl-crest cormorant					
Great Blue Heron	1	K	10		
Great Egret					
Bl-crowned night heron	1	K	1		
Horned Grebe					
Eared Grebe					
Western Grebe					
Ring-billed Gull	1	K	5		
Herring Gull					
Common Tern					
Franklin's Gull	1	K	20		
Forster's Tern	1	K	10		
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

1. Redhead: 50

2. Ruddy duck: 3

3. Black Tern: 20

\* All G nests on west shore destroyed/abandoned

4. Abandoned grebe nest on NE. marsh - 7 eggs, 4 photos

5. Coot: 3 broods

6. Pied-billed grebe: 3 broods

MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) S Heron J, K, L Parcel Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) Sandy Point County Park

Description of habitat, site, & nesting substrate: open water, submerged cattails

Threats to colony \_\_\_\_\_

Survey Details

Date 7-12-94 Time: 9:00am - 12:30pm Observers: J. Black

Address & Telephone Windom WMD 831-2220

Photos: yes kept at: Windom WMD Censur technique Boat

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	350		
Bl-crest cormorant	1	K	25	12	
Great Blue Heron	1	K	15		
Great Egret					
Bl-crowned night heron					
Hooded Grebe					
Hairy Grebe					
Western Grebe					
Ring-billed Gull	L	K	25		
Herring Gull					
Common Tern					
Franklin's Gull	L	K	5		
Forster's Tern					
Other (details in comments)					

Count method: 1) Visual estimate 2) total ground count 3) Partial count with extrapolation:  
 Describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Gathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:  
1. C. Goose : 250  
2. Black Tern : 1  
3. Cormorant Rookery

MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) NE Duck L. Parcel Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: Marsh

Threats to colony \_\_\_\_\_

Survey Details

Date 7-19-94 Time: 1:00pm Observers: J. Black L. Carlson

Address & Telephone Windom WMO 831-2220

Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique from shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican					
Obl-crest cormorant					
Great Blue Heron	1	K	10		
Great Egret					
Bl-crown night heron					
Horned Grebe					
Eared Grebe					
Western Grebe					
Ring-billed Gull					
Herring Gull					
Common Tern					
Franklin's Gull					
Forster's Tern					
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

Shorebirds return: Solitary sandpiper : 75  
 Lesser Yellowlegs : 25  
 Marshled godwit : 5  
 "Peeps" : 10

MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) S. Duck L. Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: \_\_\_\_\_

Threats to colony \_\_\_\_\_

Survey Details

Date 7-19-94 Time: 2:00pm Observers: J. Black L. Carlson

Address & Telephone Windom Wind 831-2220

Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique From shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	80		
Dbl-crest cormorant	1	K	25		
Great Blue Heron	1	K	15		
Great Egret					
Bl-crown night heron					
Horned Grebe					
Eared Grebe					
Western Grebe					
Ring-billed Gull					
Herring Gull					
Common Tern					
Franklin's Gull	1	K	15		
Forster's Tern					
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments: \_\_\_\_\_

Solitary sandpiper : 15



MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map) NW Duck L. Parcel Section \_\_\_\_\_ Twp. \_\_\_\_\_ Rg. \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: \_\_\_\_\_

Threats to colony \_\_\_\_\_

Survey Details

Date 7-19-94 Time: 2:30pm Observers: J. Black L. Carlson

Address & Telephone Windom WMD 831-2220

Photos: \_\_\_\_\_ kept at: \_\_\_\_\_ Census technique from shore

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican					
Dbl-crest cormorant	1	K	8		
Great Blue Heron	1	K	10		
Great Egret					
Bl-crown night heron					
Horned Grebe					
Eared Grebe					
Western Grebe					
Ring-billed Gull	1	K	15		
Herring Gull					
Common Tern					
Franklin's Gull	1	K	70		
Forster's Tern	1	K	10		
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:  
 describe \_\_\_\_\_

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

Black Tern : 30  
Pink-Billed Grebe : 60 (40 young)  
American Copt : 75 (50 young)

MINNESOTA COLONIAL BIRD SURVEY FORM  
 REGION 4 - JACKSON COUNTY - 1994

Colony Location (see map): North Marsh Parcel \_\_\_\_\_ Section \_\_\_\_\_ Twp \_\_\_\_\_ Rg \_\_\_\_\_

Colony size (estimated acres) \_\_\_\_\_ Site Ownership \_\_\_\_\_

Best access route (see \* map) \_\_\_\_\_

Description of habitat, site, & nesting substrate: \_\_\_\_\_

Threats to colony \_\_\_\_\_

Survey Details

Date 7-20-94 Time: 9:30am-11:00am Observers: J. Black L. Carlson

Address & Telephone Winona WMD 831-2220

Photos: yes kept at: WMD Census technique boat

Species	Count Method	Nesting Stage	Total adult pop.	Total active nests	Total broods
White Pelican	1	K	450		
Dbl-crest cormorant	1	K	350	2	
Great Blue Heron	1	K	60		
Great Egret	1	K	30		
Bl-crown night heron	1	K	10		
Horned Grebe					
Eared Grebe					
Western Grebe	1	K	2		
Ring-billed Gull	1	K	150		
Herring Gull					
Common Tern					
Franklin's Gull	1	K	30		
Forster's Tern	1	K	10		
Other (details in comments)					

Count method: 1) visual estimate 2) total ground count 3) Partial count with extrapolation:

describe

Nesting Stage: A) not present (late summer, fall or winter); B) pairing and nest building; C) Egg laying; D) Incubation; E) Hatching; F) Downy Young; G) Feathered young; H) Newly flying young; I) Renesting; J) Laying on or near colony; K) Species seen, nesting not determined; L) Abandoned during nesting season/nesting probable, no young produced; M) Adult behavior suggests nesting probable; N) Nesting, count unavailable; O) Significant nesting failure.

Comments:

Black Tern: 10